sonally observed by one of us (B. S.) at the Los Angeles City Venereal Clinic since the use of sulfanilamid was begun there on May 12, 1937. It is not intended to comment on this experience at this time further than to show Table 2, which tells at a glance the variety and incidence of complications that may be expected from an extensive application of the drug.

It seems to us that the most significant feature of this record is the prompt development of jaundice in a patient who took a very small dose of a drug which he had taken in large amounts two months previously. This raises the question of sensitization to the drug in a susceptible patient; an issue which has become familiar in the literature on pyramidon, neoarsphenamin, sedormid, cincophen. The fact that this type of sensitization has not yet been already produced in animal experiments is disappointing to those who have advocated the allergic character of these certain types of drug hypersensitivity, but the possibility of an allergic mechanism is still unrefuted. We have made no studies in sensitization, experimentally or otherwise, with this drug, but we think it important to point out the striking similarity of this record to those which have been described in reports on the harmful effects of pyramidon, neoarsphenamin, etc. We think it is probably worth while to comment also on the fact that our patient exhibited frank signs of injury, *i. e.*, fever, rash, etc., from the original large doses of the drug. Whether this circumstance should be regarded as indicating that he was a likely candidate for the development of sensitization later, we are unable to say. But as a point of practical clinical management, we think it hazardous to assume otherwise, for the present at least, and we venture the suggestion that patients who have shown untoward effects from an initial administration of the drug should be especially guarded against its repetition when sensitization has had time to develop.

SUMMARY

A case of liver necrosis, following the use of sulfanilamid, is reported, and a brief tabulation of the complications of this drug in a series of two hundred cases has been appended.

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VITAMINS A, B_1, B_2 AND D: EFFECTS OF DAILY ADMINISTRATION OF CONCENTRATES*

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CONSIDERABLE work has been done regarding the efficacy of specific vitamins upon definite diseases, and under carefully controlled conditions. Probably less has been done in observing the general effects of combinations of vitamins employed upon people under normal conditions. The health service of our institutions of higher learning seems to have an unusually good opportunity for such investigations, and accordingly twelve college students between eighteen and twenty-three years of age were carefully selected, during their fall medical examinations, for a test of vitamin therapy. Six men and six women were chosen, but because one of the women failed to coöperate she is not included in this report, except occasionally as in the nature of a control.

STUDENTS CHOSEN FOR THE STUDY

The students chosen were below normal physically and, therefore, presumably of the type most in need of additional vitamins. Nine of the eleven were underweight and undernourished; all were subject to frequent colds, which is a chief cause of trouble for the college student; four had chronic sinus infections; five were subject to influenza; one to pneumonia; and one had had tuberculosis. Two students were subject to hay fever. Acne was present in six students, and dry skin, nails, and hair in one. Five students complained of frequent headaches, and many of them tired easily, both mentally and physically, after less than the normal amount of work. All of these were carrying a full program of college work, and all but two were working outside at various odd jobs, spending in remunerative employment from eight to fifty hours a week, or an average of about nineteen hours. They were found to vary in the amount of sleep they obtained: three averaging about six hours, one seven hours, five eight hours, and two nine hours. It was impossible to control the food taken, but all were eating in the college dining hall and, therefore, under somewhat the same conditions.

These students were then given three capsules daily of a concentrate of vitamins A, B_1, B_2, and D, beginning the middle of November, 1936, and continuing to about the first of March, 1937; and each was checked every two or three weeks by personal interview, as to any change in conditions, especially weight, appetite, resistance to disease, muscular and mental fatigue, cutaneous conditions, headaches, eyes, and the general sense of well-being. They were also observed for about four weeks after the discontinuance of the vitamin therapy.

Possibly the most noticeable result was the marked decrease in the number of respiratory infections to which the group was by selection predisposed. Three of the students had no colds at all, two had only a slight sore throat, three had slight colds, two had colds of average severity, and only one continued to have colds throughout the winter. This is an excellent record, when we recall that all of these normally had many colds. During the winter there was a considerable influenza epidemic in the area, but in spite of this fact, only one student was mildly affected. In the four cases of sinus difficulty, two were completely cleared of it, and the others were considerably improved. In this connection it might be mentioned that the students having hay fever showed decided improvement, but no study was made of the offending substance supposedly the cause.

* From the Health Service and the Department of Biology of Occidental College, Los Angeles.
The A, B, D capsules from the Abbott Laboratories were kindly furnished by them for this experiment.

TABLE 1.—*Effect of Ingestion of Vitamins A, B_1, B_2, and D on Respiratory Infections of Persons Habitually subject to colds.*

Case	Colds		Influenza		Sinus Infection	
	During	After	Before	During	Before	During
R. B.	One light	0	0	0	0	0
B. A.	0	One average	0	One light	Chronic	0
P. H.	Laryngitis*	One average	0	0	0	0
P. B.	One average	0	Subject to	0	0	0
G. C.	0	One average	0	0	0	0
E. F.	One average*	One severe	Subject to	0	0	0
D. D.	3	0	0	0	Chronic	Improved
J. S.	Many	0	Subject to	0	0	0
C. B.	0	0	Subject to	0	0	0
F. G. S.	One light	One average	0	0	Chronic	0
F. S.	One light	0	Subject to	0	Chronic	Improved

* Contracted when neglected to take capsules for one to two weeks.

LATER OBSERVATIONS

After the discontinuance of the vitamin therapy, enough of the previous conditions recurred to indicate that this type of subject was usually not capable of appreciable vitamin storage. From one to three weeks after the administration of the concentrate, five of the group contracted a cold, two developed laryngitis, one had a return of sinusitis, and a fourth a severe case of bronchitis. This latter case of bronchitis was that of a young man in the group, who was working very hard, getting only six hours of sleep. Three students noted a loss of energy when no longer receiving the capsules, but only one of these was in the group having colds. The four remaining students noticed no change in their health, and presumably were able to store the vitamins for at least the period of observation.

It was found that all of the eleven subjects gained in weight during the time of administration of the capsules, but the other student who did not take the vitamins failed to gain. Three gained as much as ten pounds or over. Five of the subjects had an increase in appetite, and those reporting a better appetite were the ones who made the greatest gains in weight. Three students thought they had less appetite at first, until they were accustomed to the capsules.

Less susceptibility to fatigue and a better general sense of well-being were quite noticeable. All of them reported that they felt in better health. Eight of them stated that they did not tire as quickly at physical work as before, while five students believed they were more alert mentally and better able to study.

Several other improvements were noted to varying degrees. Six of the students had been troubled with acne, and all but one were better. One student who had a dry skin, especially on the face and hands, noticed a great increase in oiliness, and his nails were much less brittle. Three others noticed more oiliness of the hair. Two students, whose eyes tired easily, found that they could study longer before feeling any sense of eye fatigue. Of the five students who reported frequent headaches before taking the capsules, one had no headaches, three had fewer headaches, and the other had no decrease in number but a decrease in severity. One student who had gums that bled easily noticed considerably less bleeding and more hardening of the gums while taking the additional vitamins.

We may, therefore, conclude that the ingestion of additional vitamins by a person who is in poor physical condition is likely to bring about a very considerable improvement in general health, especially in resistance to respiratory infections.

Occidental College.

Always Determine Cause of Baby's Crying.—The cause of a baby's continuous crying always should be determined, Ruth Peck McLeod, Knoxville, Tenn., and Hazel L. Creekmore, R.N., declare in their article, "Shall We Let the Baby Cry It Out?" in the January issue of *Hygeia, The Health Magazine.*

There is always a reason for a baby's constantly crying. It may be that he is hungry, in pain, too cold or too hot or is tired of lying in one position. It may be that he is spoiled, though seldom is this the case.

While it is not advisable to pick up the baby every time he whimpers, it is always wise to investigate continued crying. More experienced mothers can interpret the various types of crying, such as the crying from hunger and from pain.

Crying usually increases the infant's complaint. The baby who cries from thirst loses still more water, while the crying of a child who has difficulty in breathing only results in a stuffed-up nose. Babies may expend an astonishing number of calories by crying.

Sleep that comes as a result of exhaustion after crying seldom does a great deal of good.

Hair Straighteners May Cause Burns.—Two cases of intense burns received by Negroes from the use of hair straighteners are cited by Fredric Lewis, M.D., and John V. Scudi, Ph.D., New York, in *The Journal of the American Medical Association* for January 7.

One patient has retained, for seven years, a large depigmented area on the forehead. The other patient, observed recently, will no doubt retain his scars permanently.

Amiable barbers confess that bad burns may result from the imprudent use of hair straighteners. Because of their tendency to burn, their use is inadvisable except with great care or under the supervision of a qualified physician.